WHAT IS CLAIMED IS:

1. A method for producing a new image of a desired aspect ratio from an original digital image, said method comprising the steps of:

(a) determining a cropping window of the desired aspect ratio and a predetermined size relative to the size of the original digital image;

(b) obtaining a main subject belief map including an array of belief values indicating the location and relative importance of subject matter in the original digital image;

(c) using the main subject belief map, determining a location of the cropping window in the original digital image that satisfies a predetermined set of criteria; and

(d) producing a cropped image of the desired aspect ratio.

2. The method as claimed in Claim 1, wherein the desired aspect ratio is selected from the group including a 3 x 5, 4 x 6, 5 x 7, and 8 x 10 aspect ratio.

3. The method as claimed in Claim 1, wherein the predetermined size of the cropping window is the largest size allowable by the original digital image.

4. The method as claimed in Claim 1, wherein the set of predetermined criteria include a maximum scene content index value, where a scene content index value is defined as the sum of the belief values within the cropping window.

5. The method as claimed in Claim 1, wherein the set of predetermined criteria include regions of highest belief values in their entirety.

6. The method as claimed in Claim 1, wherein the set of predetermined criteria include maintaining a predetermined amount of space

between a top image border of the original digital image and regions of highest main subject belief values.

7. The method as claimed in Claim 1, wherein the set of predetermined criteria include retaining a predetermined amount of open space at a top image border of the original digital image.

8. The method as claimed in Claim 1, wherein the set of predetermined criteria include assigning a weight in response to a relative location of the cropping window to the center of the original digital image.

9. The method as claimed in Claim 1, wherein the step of obtaining a main subject belief map includes the steps of:

(i) extracting regions of homogenous properties from the original digital image;

(ii) extracting for each of the regions at least one structural saliency feature and at least one semantic saliency feature; and

(iii) integrating the structural saliency feature and the semantic saliency feature using a probabilistic reasoning engine to produce an estimate of a belief value that each region is the main subject.

10. The method as claimed in Claim 9, wherein step (ii) uses centrality as the structural saliency feature.

11. The method as claimed in Claim 9, wherein step (ii) uses borderness as the structural saliency feature.

12. The method as claimed in Claim 9, wherein step (ii) uses a presence of human skin tones as the semantic saliency feature.

13. The method as claimed in Claim 9, wherein step (ii) uses a presence of human faces as the semantic saliency feature.

14. The method as claimed in Claim 9, wherein step (iii) uses a Bayes network as the probabilistic reasoning engine.

15. The method as claimed in Claim 4, wherein the step of determining a location of the cropping window includes the steps of:

(i) computing an integral image from the main subject belief map;

(ii) computing the subject content index of a cropping window; and

(iii) selecting a location of the cropping window that produces a maximum subject content index value.

16. The method as claimed in Claim 1, wherein the step of determining a location of the cropping window further includes determining a series of all possible locations for the size of the cropping window for a user to choose from.

17. A computer program product for producing a new image of a desired aspect ratio from an original digital image comprising: a computer readable storage medium having a computer program stored thereon for performing the steps of:

(a) determining a cropping window of the desired aspect ratio and a predetermined size;

(b) obtaining a main subject belief map including an array of belief values indicating the location and relative importance of subject matter in the original digital image;

(c) using the main subject belief map, determining a location of the cropping window in the original digital image that satisfies a predetermined set of criteria; and

(d) producing a cropped image of the desired aspect ratio.

18. The computer program product as claimed in claim 17 wherein the steps (a) through (d) are performed by an on-line print fulfilling system for producing a print of a desired aspect ratio from a digital image

19. The computer program product as claimed in claim 17 wherein the steps (a) through (d) are performed by a digital mini-lab photo finishing system for producing a print of a desired aspect ratio from a digital image .

20. The computer program product as claimed in claim 17 wherein the steps (a) through (d) are performed by an interactive stand-alone digital photo finishing system for producing a print of a desired aspect ratio from a digital image

21. The computer program product as claimed in claim 17 wherein the steps (a) through (d) are performed by a wholesale digital photo finishing system for producing a print of a desired aspect ratio from a digital image.